



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/800,471	03/15/2004	Warren M. Ewert	33890US1	3183

7590 03/27/2007
K. KaRan Reed
Chevron Phillips Chemical Company, LP
Law Dept-IP
PO Box 4910
The Woodlands, TX 77387

EXAMINER

MCAVOY, ELLEN M

ART UNIT	PAPER NUMBER
----------	--------------

1764

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/27/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/800,471

Applicant(s)

EWERT ET AL.

Examiner

Ellen M. McAvoy

Art Unit

1764

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-58 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-58 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/17/2004; 8/9/2004</u> . | 6) <input type="checkbox"/> Other: ____ |

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lashier et al (5,689,028), Araki et al (5,750,816) and Kreischer et al (6,380,451), considered separately.

Lashier et al ["Lashier"] disclose a process to regulate olefin production by deactivating the catalyst system which comprises the sequential steps of contacting a reactor effluent stream with an alcohol, removing and recovering any desired olefin product(s), adding an aqueous base to the reactor stream effluent, removing a solid product from the reactor stream effluent, separating organic and aqueous phases, adding an acid to the aqueous phase and recovering the precipitate. Lashier teaches that catalyst systems useful in the invention comprises a chromium source, a pyrrole-containing compound and a metal alkyl such as an aluminum alkyl. See column 1. Lashier teaches that the chromium source includes one or more organic or inorganic compounds including halogen-containing compounds. See column 1, line 55 to column 2, line 34. Lashier teaches that the pyrrole-containing compound can be any pyrrole-containing compound that will react with a chromium source to form a chromium pyrrolide complex. See column 2, line 35 to column 3, line 13. Lashier teaches that the alkylaluminum compounds may also be halogenated. See column 3. Reactants and reaction conditions are set forth in columns 4-5. Lashier teaches that suitable alcohol compounds have six or more carbon atoms and include

1-hexanol, 2-ethyl-hexanol, 1-heptanol, 1-octanol, and others. See column 6. The examiner is of the position that the process of Lashier appears indistinguishable from the claimed processes.

Araki et al ["Araki"] discloses a process for preparing alpha-olefin oligomers using a chromium-based catalyst system comprising (a) a chromium compound, (b) at least one nitrogen-containing compound, and (c) an alkylaluminum compound. Araki teaches that the process recovers the produced alpha-olefin oligomers, the catalyst components and the by-product polymers from the reaction solution. The prior art teaches that suitable chromium compounds are set forth in column 2, lines 42 et. seq. Suitable nitrogen-containing compounds include pyrrole and pyrrolide compounds as set forth in column 4. Araki teaches that the alkylaluminum compounds may be halogenated. See column 6. Araki teaches that the oligomerization process is carried out in a solvent and a compound soluble in the solvent and having a bonding ability to the chromium such as an alcohol compound is added to the reaction solution. Suitable alcohols include hexanol, heptanol, and diols. See column 12. Reaction conditions are set forth in columns 8-9. The examiner is of the position that the process of Araki appears indistinguishable from the claimed processes.

Kreischer et al ["Kreischer"] discloses a process of cleaning an oligomerization reactor after making a higher olefin in the reactor. The oligomerization reaction causes a co-product residue of the catalyst to form on the interior surface of the reactor. Suitable catalyst systems used in such a reaction include the combination of a chromium source, a pyrrole-containing compound and one or metal alkyls such as aluminumalkyl compounds. The interior surface of the reactor is then contacted with an alcohol under conditions effective to remove at least a

substantial amount of the catalyst residue from the interior surface of the reactor. Kreischer teaches that the catalyst-removing step can be carried out by combining an alcohol with the process medium used in the reactor. Kreischer set forth reaction conditions in columns 7-9. Suitable alcohols have 6-12 carbon atoms and include 1-hexanol and 1-heptanol. The examiner is of the position that the process of Kreischer appears to be indistinguishable from the claimed processes.

Conclusion

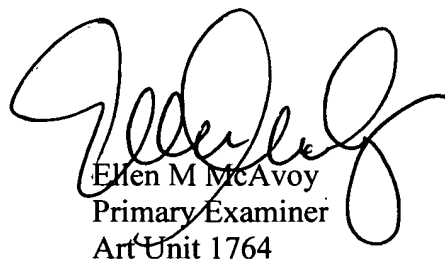
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ellen M. McAvoy whose telephone number is (571) 272-1451. The examiner can normally be reached on M-F (7:30-5:00) with alt. Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

Art Unit: 1764

like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Ellen M McAvoy
Primary Examiner
Art Unit 1764

EMcAvoy
March 23, 2007